FEATURES :

- 14PIN SMD Package
- No-load input current as low as 5mA
- Continuous short-circuit protection
- High Efficiency up to 89%
- Unregulated Output Types
- 1.5KVDC & 3KVDC Isolation
- Operating Temperature:-40℃ to +105℃
- Industry Standard Pinout
- Design refer to IEC62368, UL62368, EN62368

Specifications typical at TA=25°C, nominal input voltage and rated output current unless otherwise specified

Part Number	Output Voltage	Output Current	Efficiency	Capacitive Load(μF)	Package Style
	Vdc	mA	%TYP	Max.	
13DSC-05S05NYP2(H3)	5	400	85	2400	1/2/3
13DSC-05S09NYP2(H3)	9	223	87	820	1/2/3
13DSC-05S12NYP2(H3)	12	167	87	470	1/2/3
13DSC-05S15NYP2(H3)	15	133	88	220	1/2/3
13DSC-05S24N3P2(H3)	24	84	89	100	3
13DSC-XXS05NYP2(H3)	5	400	85	2400	1/2/3
13DSC-XXS09NYP2(H3)	9	223	87	820	1/2/3
13DSC-XXS12NYP2(H3)	12	167	87	470	1/2/3
13DSC-XXS15NYP2(H3)	15	133	88	220	1/2/3
13DSC-XXS24N3P2(H3)	24	84	89	100	3

Note:

1. No suffix is standard isolation (1.5KVDC) e.g, 13DSC-15S05NP2, *add suffix "H3" for 3KVDC isolation, e.g, 13DSC-12S09NP2H3, 13DSC-12S12NP2H3.
2. Y = 1 or 2 or 3 for package, no suffix Y package1, when X=2, package2, and so on, e.g,13DSC-15S05NP2, 13DSC-24S12N3P2H3.
   When the I / O is equal to 24 V, package 1 and 2 disable.

YUAN DEAN SCIENTIFIC

DC-DC Converter

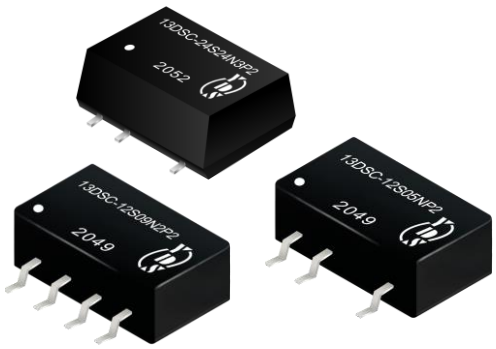
13DSC-2W SERIES

2Watt

1.5KV & 3KV Isolated

Single Output

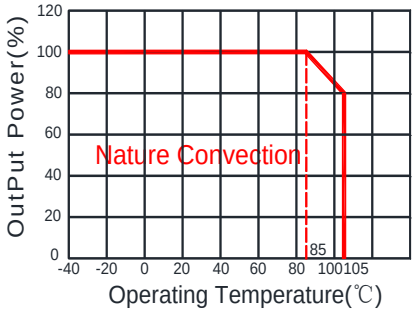
SMD14



ROHS COMPLIANT

3 YEARS WARRANTY

Temperature Derating Graph



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Rev: 1 2024/04/02

Input Specifications

Parameters	Conditions	Min	Typ	Max	Units
Voltage Range	Vo,Io Nom		±10		%
Filter	Capacitor				

Output Specifications

Parameters	Conditions	Min	Typ	Max	Units
Voltage Tolerance	100% full load			±5	%
Short Circuit Protection	Continuous				
Line Regulation	For 1.0% of Vin		1.2		%
Load Regulation	5V (10% To 100% F.L)		8	15	%
	9V (10% To 100% F.L)		6	10	%
	12V (10% To 100% F.L)		5	10	%
	15V (10% To 100% F.L)		4	10	%
	24V (10% To 100% F.L)		3	10	%
Ripple & Noise	BW=DC To 20MHz		75	150	mVp-p

General Specifications

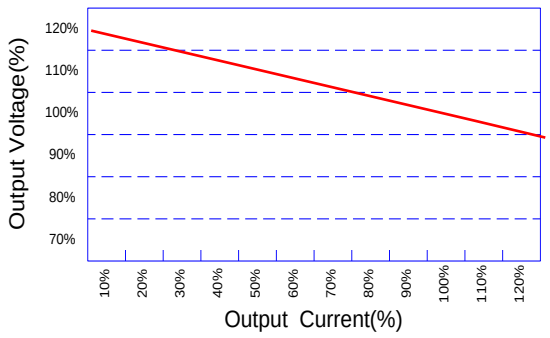
Parameters	Conditions	Min	Typ	Max	Units
Isolation Resistance	500Vdc	1000			MΩ
Isolation Capacitance	Input-output, 100KHz/0.1V		20		pF
Switching Frequency	Full load, nominal input @5V Vin		215		KHz
	Full load, nominal input @other Vin		250		KHz
Operation Temperature		-40		+105	℃
Storage Temperature		-55		+125	℃
Humidity	Non Condensing			95	%
Cooling	Free air Convection				
Case material	DAP				
MTBF	MIL-HDBK-217F@25℃	3500000			Hours
Weight	Package 1/2/3		1.2/1.2/1.28		g
Dimensions	Package 1		12.7x7.6x6.25		mm
	Package 2		12.7x7.6x6.25		mm
	Package 3		12.8x10.8x6.9		mm

Part Number

13DSC - 12 S 12 N 3 P 2
A B C D E F G H

A:Series
B:Input Voltage
C:Single Output
D:Output Voltage
E:Unregulated(N)
F:Packge
G:Protection
H:Output Power

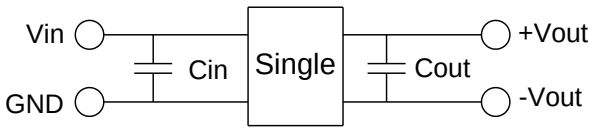
Tolerance Envelope Graph



Electromagnetic Compatibility (EMC)

EMI	CE	CISPR32/EN55032 CLASS B (see Fig. 1 for recommended circuit)
	RE	CISPR32/EN55032 CLASS B (see Fig. 1 for recommended circuit)
EMS	ESD	IEC/EN61000-4-2 Air ±8kV , Contact ±6kV perf. Criteria B

Recommended Test Circuit



Vin	Cin	Single Vout	Cout
5Vdc	4.7μF/25V	5Vdc	10μF/16V
12Vdc	2.2μF/25V	9Vdc	2.2μF/16V
15Vdc	2.2μF/25V	12Vdc	2.2μF/25V
24Vdc	1μF/50V	15Vdc	1μF/25V
- -	- -	24Vdc	1μF/50V

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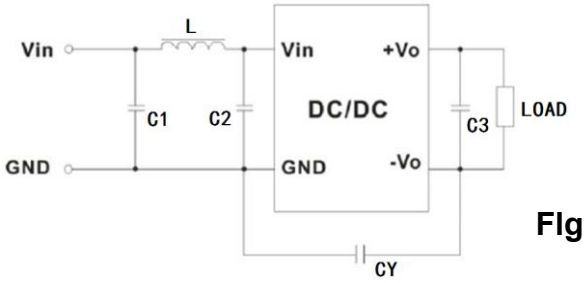
EMC (CLASS B) compliance circuit

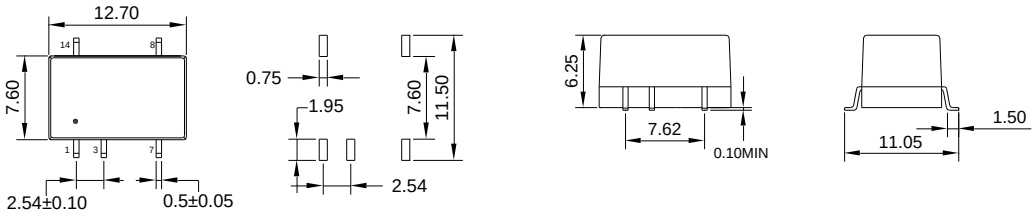


Flg.1

EMC recommended circuit value table		
EMI	C1	4.7μF /50V
	C2	4.7μF /50V
	CY	1nF/4kV
	C3	Recommended Test Circuit
	L	6.8μH

Markings and Dimensions

1



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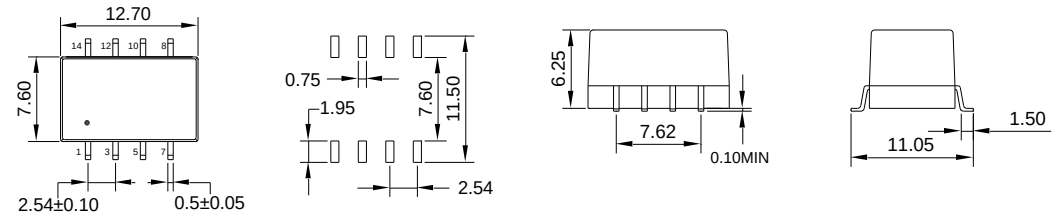

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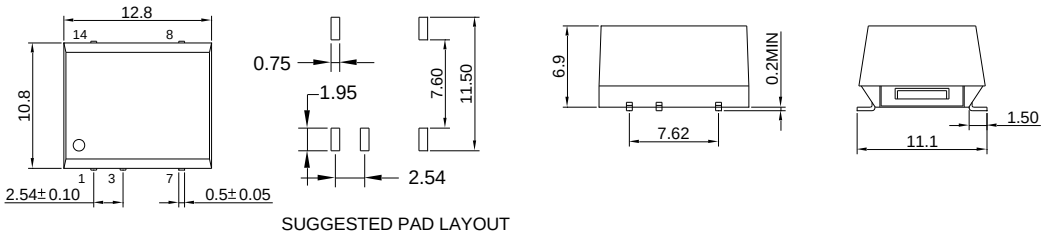

UNIT: mm Unless otherwise specified, all tolerances are ±0.25

PIN Connection

PIN	1	3	7	8	14	Other
Package 1/3	-Vin	+Vin	-Vout	+Vout	NC	NO PIN
Package 2	-Vin	+Vin	-Vout	+Vout	NC	NC

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